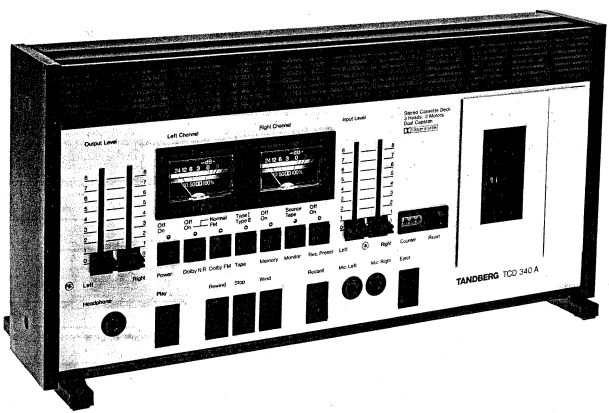
TANDBERG

TCD 340 A
Circuit Diagrams with Alignment Instructions

Mechanical adjustments, see Service Manual for TCD 330, Ordering No. 714021



General

Before adjusting, the tape path must be cleaned and demagnetized. It is necessary that the tape path is correctly adjusted, consult the service manual for the TCD 330, part No. 714021.

Carry out the adjustments in the order described because the adjustments affect each other. Remove the top panel, base panel, and right side panel.

Equipment required

- 2 volt meters
- Audio signal generator
- Frequency counter
- Distortion meter
- Wow and flutter meter
- Tandberg test cassettes
  - No. 21 (Speed check, 1000 Hz)
  - No. 22 (Wow and flutter check, 3150 Hz)
  - No. 23 (Azimuth adj. playb. head, 6300 Hz)
  - No. 24 (Playback level adj., 1000 Hz)
- Measuring cassettes
  - Maxell UD XL I (Type I)
  - Maxell UD XL II (Type II)

Before adjusting, set the buttons to:

- MPX-FILTER (situated at the back of the deck) to OFF.
- Dolby NR* to Off.
- Tape to Type I.
- Output Level controls to max.

* *The word "Dolby" is registered trade mark of Dolby Laboratories Inc., USA. NR stands for Noise Reduction.*

Oscillator

The oscillator frequency is between 80 and 100 kHz. The voltage measured on the erase head should be between 25 and 32 volts.

Sensitivity adjustment

- Set the Monitor button to Source position, and Input and Output Level controls to maximum.
- Apply 8mV,1000 Hz to the RADIO socket (DIN) or 80 mV,1000 Hz to the INPUT sockets (Phono) from the audio signal generator.
- Adjust the SENSITIVITY ADJ. pots. R101-R201 to obtain 775 mV measured on a voltmeter connected to the Dolby encoder output, see Figure 1.
- Move the measure probe to the Dolby decoder output, see Figure 2.
- Adjust the SOURCE LEVEL ADJ. pots. R118-R218 to obtain 775 mV.
- Check the frequency response in Source.

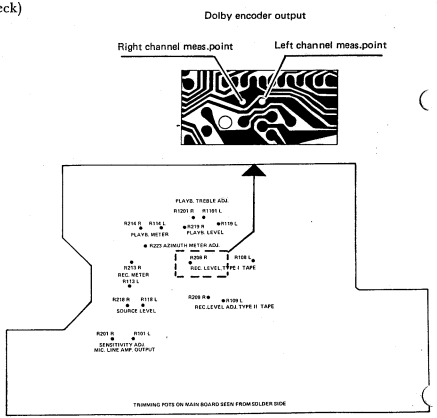


Figure 1 Trimming pots. and Dolby encoder measurement points

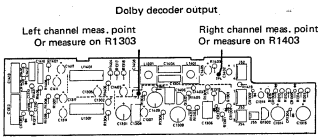


Figure 2 Dolby decoder measurement points

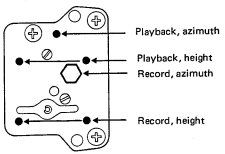


Figure 3 Adjustments for the heads

Azimuth adjustment, playback head

– Insert a Tandberg test cassette No. 23 or a standard azimuth cassette.

– Set the Monitor button to Tape and connect a voltmeter to each channel of the OUTPUT sockets.

– Press the Play button. Adjust the playback azimuth screws shown in Figure 3 to obtain maximum reading on each channel.

Playback level

– Insert test cassette No. 24.

– Connect a voltmeter to each channel of the Dolby decoder output shown in Figure 2.

– Adjust the PLAYBACK LEVEL pots. R119 and R219 until you read 775 mV on each channel.

Level meter adjustment, playback

– Insert Tandberg test cassette No. 24.

When the playback level is correct, adjust the level meter to 0 dB with PLAYBACK METER R114 and R214.

Azimuth and height, record head

– Use Maxell UD XL I or an equivalent tape.

– Apply 1000 Hz to the INPUT sockets both channels.

– Set the Monitor button to Tape and connect a voltmeter to the OUTPUT sockets both channels.

– Press the Record button and turn the two record head height screws shown in Figure 3 by equal amounts (the same number of degrees) to obtain the maximum reading on both channels of the OUTPUT sockets, or the best compromise.

– Adjust the azimuth (10 kHz) and the height alternatively, until the head sits correctly.

– Azimuth can also be adjusted with the built-in control oscillator (10 kHz).

NOTE! The record height screws must be adjusted by equal amounts to ensure that the head parallelism does not change.

Overall frequency response with Type I Tape (bias)

– Set the Monitor button to Tape.

– Apply 1000 Hz from the signal generator to one of the inputs.

– Reduce the level at the signal generator by 35 dB or reduce the level by a similar amount on the Input Level controls.

– Press the Record button, and adjust the BIAS ADJ. TYPE I TAPE, C1502 and C1602 to obtain maximum reading at the outputs.

– Sweep the audio generator through the full frequency range and check that the response curve is correct.

– If necessary, adjust the curve with C1502 and C1602 to obtain the correct response, ± 3 dB, 30 to 18000 Hz.

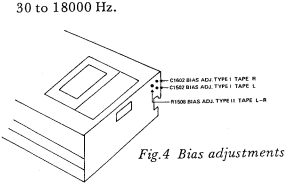


Fig.4 Bias adjustments

Adjusting the record current (Source/Tape) Type I Tape

– Use the same input level as for the bias adjustment (– 35 dB) and 1000 Hz.

– Adjust the record current by means of the REC. LEVEL ADJ. pots. R108 and R208 to obtain the same output level for both positions on the Monitor button.

– Then depress the Dolby NR button and check the overall frequency response.

Overall frequency response with Type II Tape (bias)

– Use the same procedure as for the Type I tape.

– Insert a Maxell UD XL II or an equivalent tape.

– Set the Tape button to Type II position, and press the Record button.

– Check the frequency response, and if necessary, adjust the BIAS ADJ. TYPE II TAPE, pot. R1508 to obtain the correct response.

Adjusting the record current (Source/Tape) Type II Tape

– Use the same input level as for the bias adjustment (– 35 dB) and 1000 Hz.

– Adjust the record current by means of the REC. LEVEL ADJ. pots R109 and R209 to obtain the same output level for both positions on the Monitor button.

R1101 and R1201 affect the treble response in the frequency region 15–18 kHz on the playback curve for all types of tapes.

Level meters adjustment, record

– Set the Monitor button to Tape.

– Apply 1000 Hz to the INPUT sockets (both channels).

– Press the Record button and adjust the Input Level controls for 1.5 volt reading on the OUTPUT sockets.

– Adjust the REC. METER pots. R113 and R213 to obtain 0 dB on the level meters.

Distortion

Record 1000 Hz at 0 dB deflection on the meters. The max. distortion for record/playback is 3%.

Erase test

Connect a microphone to the TCD 340A and record an overload signal. Record again to erase the overload recording and play back to ensure that the overload signal cannot be heard.

Azimuth meter adjustment

– Set the built-in oscillator to ON.

– Set the Output Level controls to maximum.

– Insert a Type I tape and press the Record button.

– Adjust R223 (AZIMUTH METER ADJ.) to approximately – 3 dB deflection on the right meter.

– Check also that the meter deflection with a Type II tape is within the meter scale.

Speed check

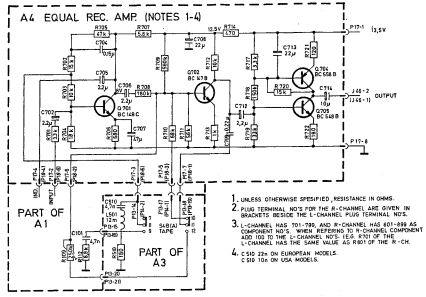
Play back Tandberg test cassette No. 21 (speed check 1000 Hz) and measure with a frequency counter on the OUTPUT sockets:
$< \pm$ 0.5% (995 to 1005 Hz).

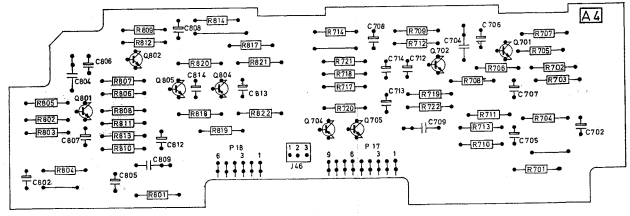
Wow and flutter

Play back a Tandberg test cassette No. 22 (3150 Hz) and measure with a wow and flutter meter on the OUTPUT sockets:
Weighted RMS: $< 0.09\%$
Weighted Peak DIN 45511: $< 0.2\%$

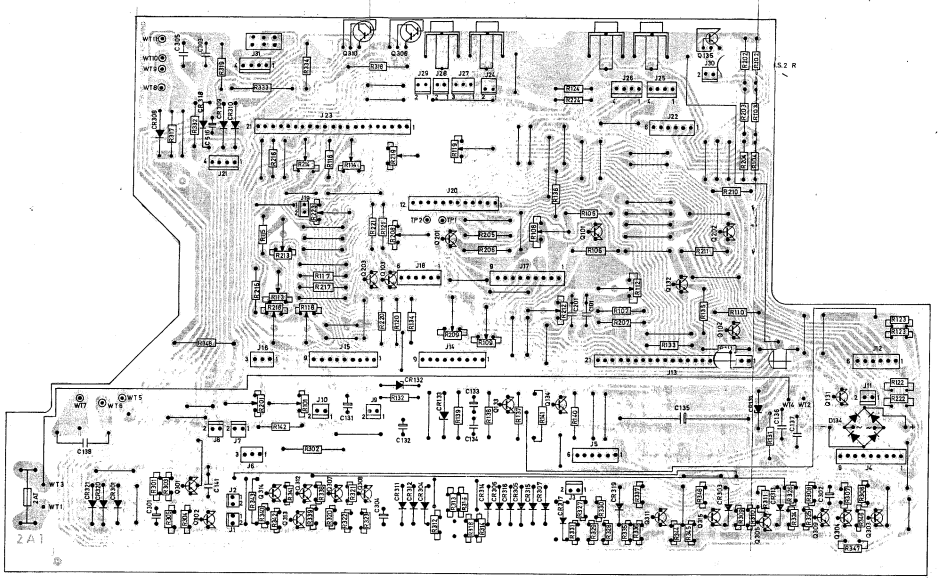
Record/playback

Record from a generator 3150 Hz (check with a frequency counter and measure with the wow and flutter meter on the OUTPUT sockets.
Weighted RMS: $< 0.12\%$

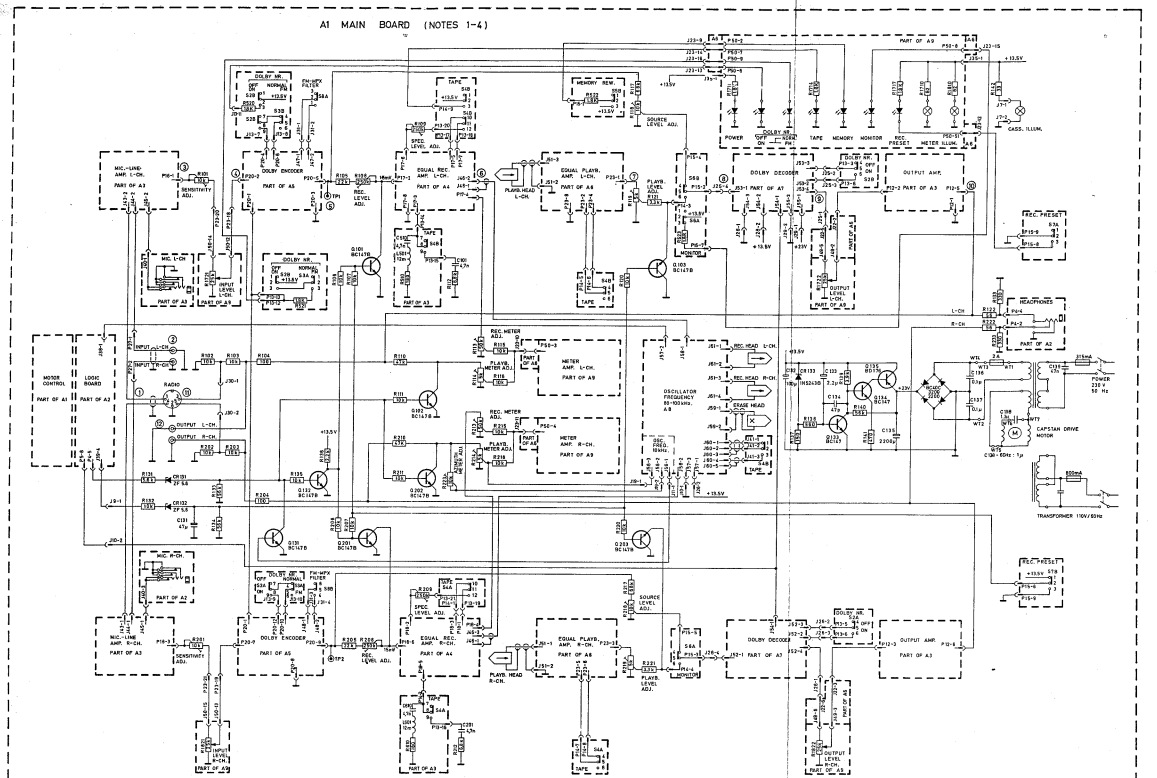

A4 EQUAL REC. AMP. (NOTES 1-4)
PART OF A1
PART OF A3
1. UNLESS OTHERWISE SPESIFIED, RESISTANCE IN OHMS.
2. PLUG TERMINAL NO'S FOR THE R-CHANNEL ARE GIVEN IN BRACKETS BESIDE THE L-CHANNEL PLUG TERMINAL NO'S.
3. L-CHANNEL HAS 701-799, AND R-CHANNEL HAS 801-899 AS COMPONENT NO'S. WHEN REFERRED TO R-CHANNEL COMPONENT ADD 100 TO THE L-CHANNEL NO'S. (E.G. R701 OF THE L-CHANNEL HAS THE SAME VALUE AS R801 OF THE R-CH.
4. C510 22n ON EUROPEAN MODELS. C510 10n ON USA MODELS.



A4 EQUAL REC.AMP.



A1 MAIN BOARD

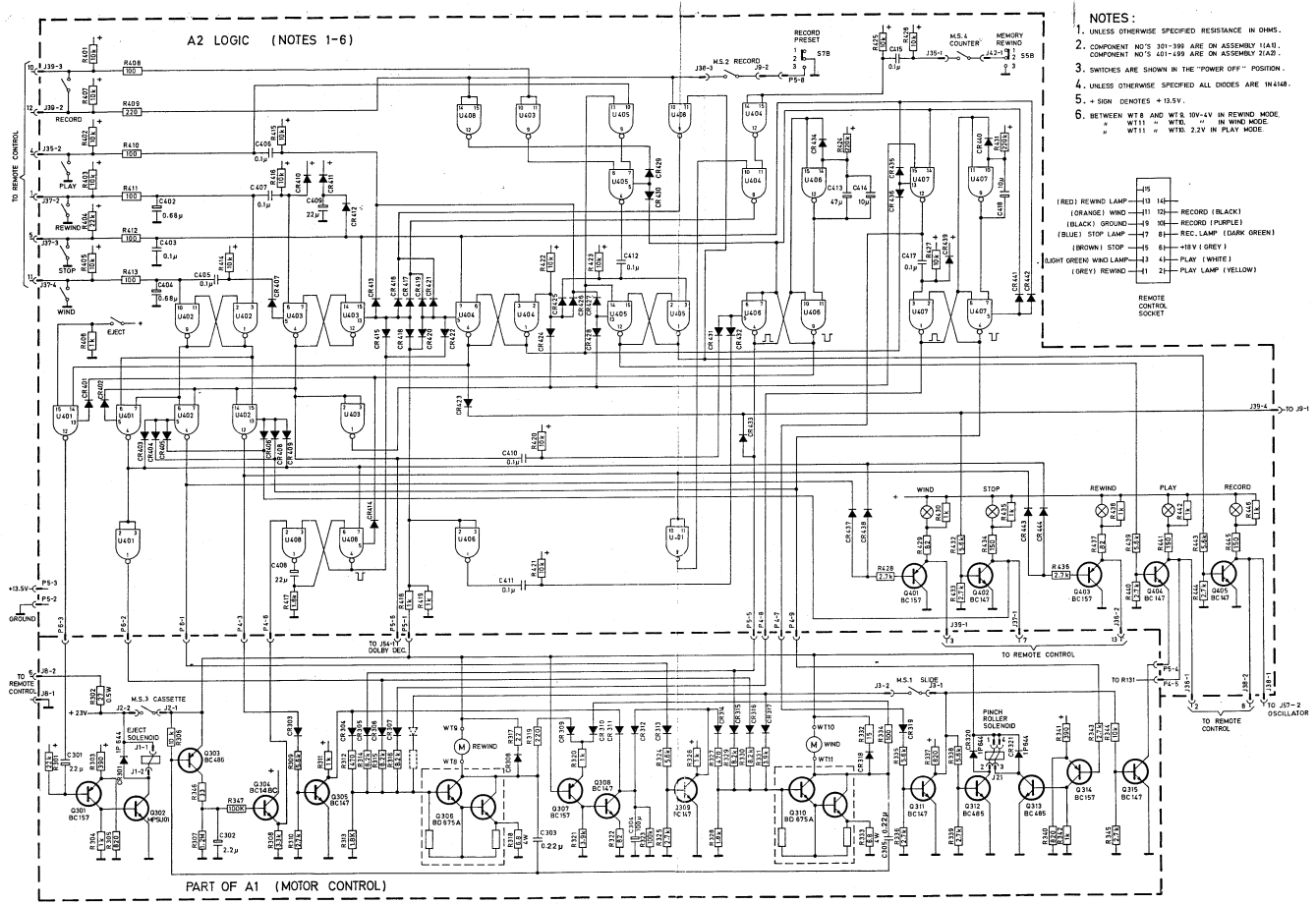


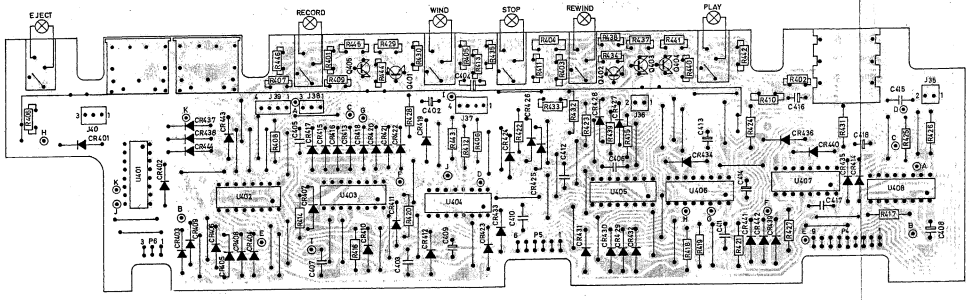
NOTES:

1. UNLESS OTHERWISE SPECIFIED, RESISTANCE IN OHMS.
2. ALL SWITCHES ARE SHOWN IN THE "POWER OFF" POSITION.
3. LEFT CHANNEL COMPONENTS HAVE 101-136, RIGHT CHANNEL COMPONENTS HAVE 201-236. COMPONENTS COMMON FOR BOTH CHANNELS HAVE 131-199.
4. LOGICAL LEVELS FROM LOGIC BOARD:
   J28-1, ONLY LOW IN RECORD.
   J28-2, ONLY LOW IN PLAY.
   J30-1, ONLY HIGH IN STOP.
   J30-2, ONLY HIGH IN WIND AND REWIND.
   LOW IS VOLTAGE BELOW 1.5V.
   HIGH IS VOLTAGE ABOVE 10V.

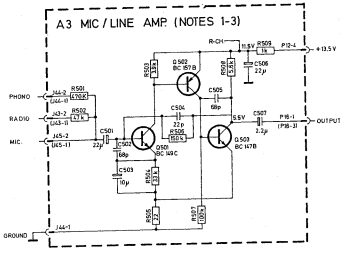
TABLE/ SENSITIVITY OF AMPLIFIERS

	SENSITIVITY AT 1000 Hz
①	0 mV
②	80 mV
③	25 mV
④	22 mV
⑤	775 mV
⑥	1.1 V
⑦	80 mV
⑧	40 mV
⑨	250 mV
⑩	1.5 V
⑪	775 mV
⑫	1.9 V


A2 LOGIC (NOTES 1-6)
NOTES :
1. UNLESS OTHERWISE SPECIFIED RESISTANCE IN OHMS.
2. COMPONENT NO'S 301-399 ARE ON ASSEMBLY 1(A1).
COMPONENT NO'S 401-499 ARE ON ASSEMBLY 2(A2).
3. SWITCHES ARE SHOWN IN THE "POWER OFF" POSITION.
4. UNLESS OTHERWISE SPECIFIED ALL DIODES ARE 1N4148.
5. + SIGN DENOTES +13.5V.
6. BETWEEN WT8 AND WT9, 10V-4V IN REWIND MODE.
" WT11 " WT10, " IN WIND MODE.
" WT11 " WT10, 2.2V IN PLAY MODE.
REMOTE CONTROL SOCKET
(RED) REWIND LAMP
(ORANGE) WIND
(BLACK) GROUND
(BLUE) STOP LAMP
(BROWN) STOP
(LIGHT GREEN) WIND LAMP
(GREY) REWIND
RECORD (BLACK)
RECORD (PURPLE)
REC. LAMP (DARK GREEN)
+18 V (GREY)
PLAY (WHITE)
PLAY LAMP (YELLOW)
TO REMOTE CONTROL
RECORD PRESET
M.S.2 RECORD
M.S.4 COUNTER MEMORY REWIND
M.S.1 SLIDE
M.S.3 CASSETTE
EJECT SOLENOID
PINCH ROLLER SOLENOID
WIND
STOP
REWIND
PLAY
RECORD
EJECT
TO J54-1 DOLBY DEC.
TO J57-2 OSCILLATOR
PART OF A1 (MOTOR CONTROL)

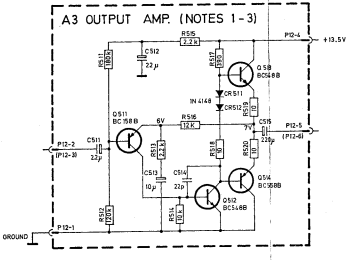


A2 LOGIC BOARD



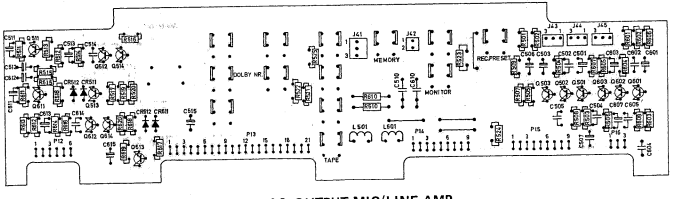
NOTES:

1. UNLESS OTHERWISE SPECIFIED RESISTANCE IN OHMS.
2. PLUG TERMINAL NO'S FOR THE R-CHANNEL ARE GIVEN IN BRACKETS BESIDE THE L-CHANNEL PLUG TERMINAL NO'S.
3. L-CHANNEL HAS 501-510, AND R-CHANNEL HAS 601-610 AS COMPONENT NO'S. WHEN REFERING TO R-CHANNEL COMPONENT ADD 100 TO THE L-CHANNEL NO'S (E.G. R501 OF THE L-CHANNEL HAS THE SAME VALUE AS R 601 OF THE R-CHANNEL)

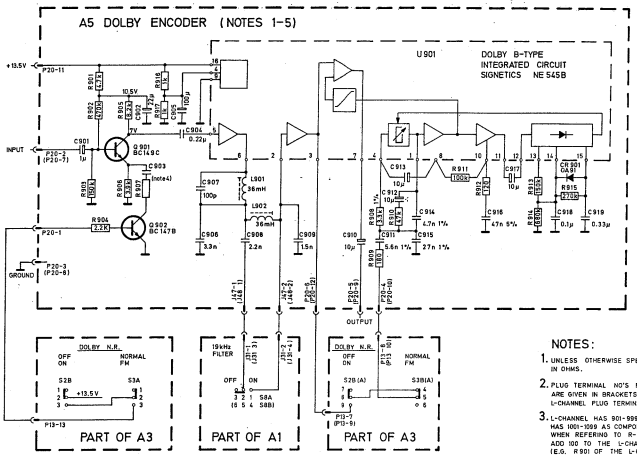


NOTES:

1. UNLESS OTHERWISE SPECIFIED RESISTANCE IN OHMS.
2. PLUG TERMINAL NO'S FOR THE R-CHANNEL ARE GIVEN IN BRACKETS BESIDE THE L-CHANNEL PLUG TERMINAL NO'S.
3. L-CHANNEL HAS 511-599, AND R-CHANNEL HAS 611-699 AS COMPONENT NO'S. WHEN REFERING TO R-CHANNEL COMPONENT ADD 100 TO THE L-CHANNEL NO'S. (E.G. R511 OF THE L-CHANNEL HAS THE SAME VALUE AS R611 OF THE R-CHANNEL)



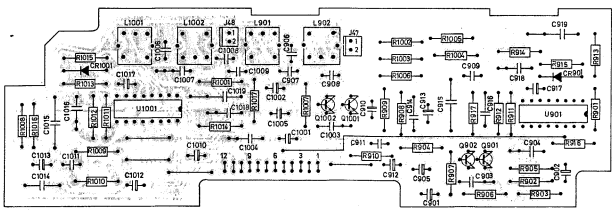
A3 OUTPUT MIC/LINE AMP.



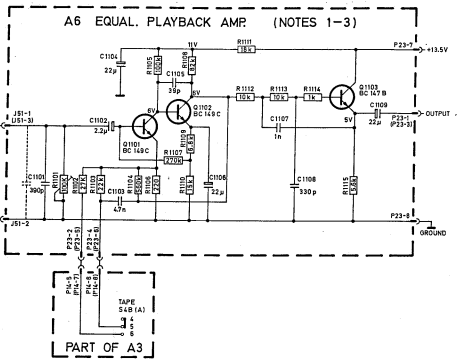
NOTES:

1. UNLESS OTHERWISE SPECIFIED RESISTANCE IN OHMS.
2. PLUG TERMINAL NO'S FOR THE R-CHANNEL ARE GIVEN IN BRACKETS BESIDE THE L-CHANNEL PLUG TERMINAL NO'S.
3. L-CHANNEL HAS 901-999, AND R-CHANNEL HAS 1001-1099 AS COMPONENT NO'S. WHEN REFERING TO R-CHANNEL COMPONENT ADD 100 TO THE L-CHANNEL NO'S. (E.G. R901 OF THE L-CHANNEL HAS THE SAME VALUE AS R1001 OF THE R CHANNEL.)
4. R907=2.2K, C903=15n GIVES α=75-23° DOLBY FM COMPENSATOR

   R907=3.9K, C903=12n GIVES α=50-25° DOLBY FM COMPENSATOR

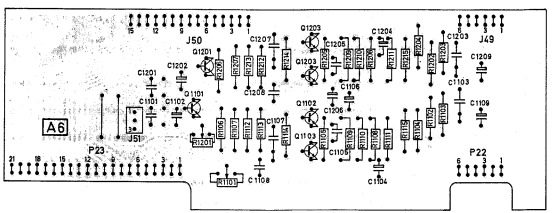


A5 DOLBY ENCODER

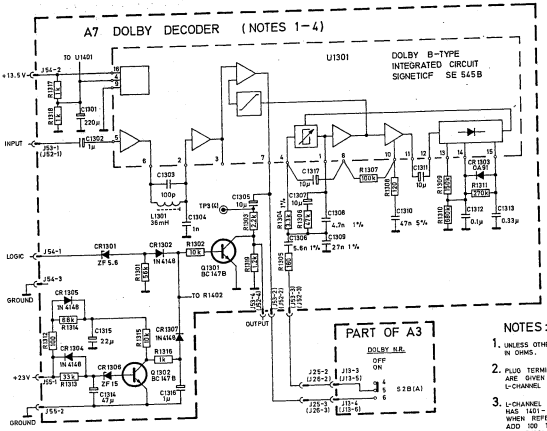


NOTES:

1. UNLESS OTHERWISE SPECIFIED RESISTANCE IN OHMS.
2. PLUG TERMINAL NO'S FOR THE R-CHANNEL ARE GIVEN IN BRACKETS BESIDE THE L-CHANNEL PLUG TERMINAL NO'S.
3. L-CHANNEL HAS 1101-1199, AND R-CHANNEL HAS 1201-1299 AS COMPONENT NO'S. WHEN REFERING TO R-CHANNEL COMPONENT ADD 100 TO THE L-CHANNEL NO'S. (E.G. R1101 OF THE L-CHANNEL HAS THE SAME VALUE AS R1201 OF THE R-CHANNEL.)

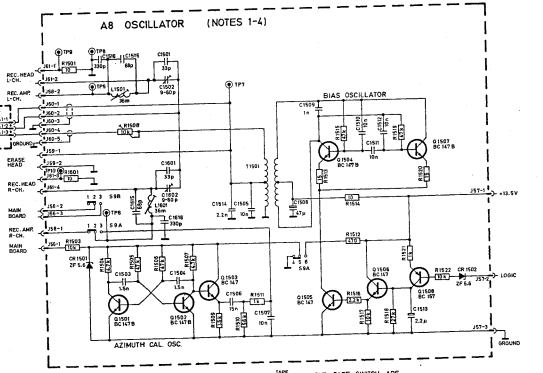


A6 EQUAL PLAYBACK AMP.



NOTES:

1. UNLESS OTHERWISE SPECIFIED RESISTANCE IN OHMS.
2. PLUG TERMINAL NO'S FOR THE R-CHANNEL ARE GIVEN IN BRACKETS BESIDE THE L-CHANNEL PLUG TERMINAL NO'S.
3. L-CHANNEL HAS 1301-1599, AND R-CHANNEL HAS 1401-1699 AS COMPONENT NO'S. WHEN REFERRING TO R-CHANNEL COMPONENT ADD 100 TO THE L-CHANNEL NO'S. (E.G. R1301 OF THE L-CHANNEL HAS THE SAME VALUE AS R1401 OF THE R-CHANNEL.)
4. P54-1, ONLY HIGH IN WIND-REWIND.

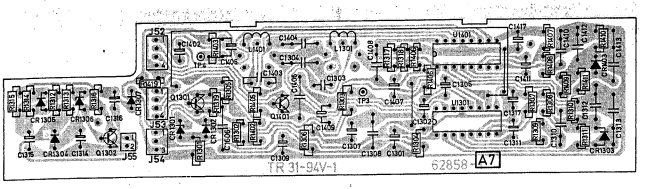


NOTES:

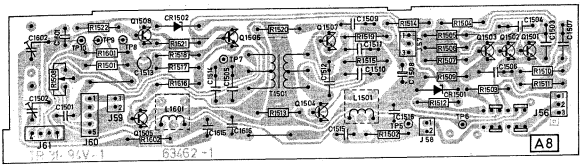
1. UNLESS OTHERWISE SPECIFIED RESISTANCE IN OHMS.
2. PLUG TERMINAL NO'S FOR THE R-CHANNEL ARE GIVEN IN BRACKETS BESIDE THE L-CHANNEL PLUG TERMINAL NO'S.
3. L-CHANNEL HAS 1501-1599, AND R-CHANNEL HAS 1601-1699 AS COMPONENT NO'S. WHEN REFERRING TO R-CHANNEL COMPONENT ADD 100 TO THE L-CHANNEL NO'S. (E.G. R1501 OF THE L-CHANNEL HAS THE SAME VALUE AS R1601 OF THE R-CHANNEL.)
4. ONLY LOW LEVEL (BELOW 1.5V) ON J57-2 IN RECORD.

THE AZIMUTH CAL. SWITCH ARE SEEN FROM THE FRONT SIDE.

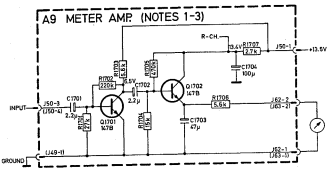
THE TAPE SWITCH ARE SEEN FROM SOLDER SIDE.



A7 DOLBY DECODER

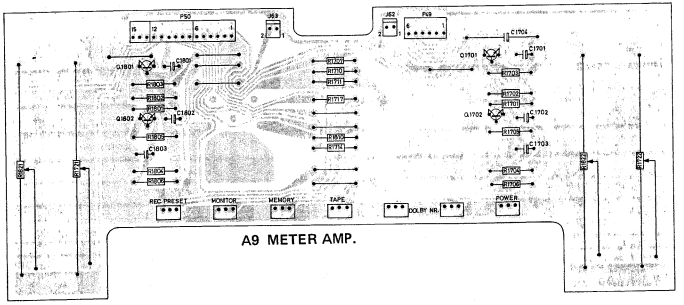


A8 OSCILLATOR



NOTES:

1. UNLESS OTHERWISE SPECIFIED RESISTANCE IN OHMS.
2. PLUG TERMINAL NO'S FOR THE R-CHANNEL ARE GIVEN IN BRACKETS BESIDE THE L-CHANNEL PLUG TERMINAL NO'S.
3. L-CHANNEL HAS 1701-1799, AND R-CHANNEL HAS 1801-1899 AS COMPONENT NO'S. WHEN REFERING TO R-CHANNEL COMPONENT ADD 100 TO THE L-CHANNEL NO'S. IE.G. R1701 OF THE L-CHANNEL HAS THE SAME VALUE AS R1801 OF THE R-CHANNEL)

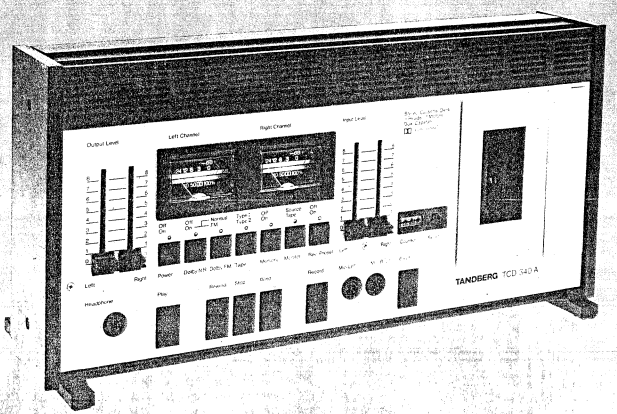


A9 METER AMP.

1658 - 9 - 78 Part No. 714092
Printed in Norway by Petlitz

TANDBERG
TCD 340 A
Illustrated Parts List

TANDBERG
ZENTRAL-SERVICE
Jochen Schmidt
Am Strasserfeld 2
Telefon (0211) 203076 - Telefax (0211) 202954
4000 DÜSSELDORF 12 UNTERBACH



Bestilling av deler

Ved alle henvendelser, vennligst oppgi apparatets type og serienummer.
Ved bestilling av deler, oppgi bestillingsnummer og beskrivelse.

Bestillingsadresse

Kontakt nærmeste Tandberg-kontor eller:
Tandberg A/S
Sentral Delelager – Service
Postboks 53
N – 2007 KJELLER – Norge

Telefon: (02) 71 68 20
Telex: 18007 kurer n

Ordering of spare parts

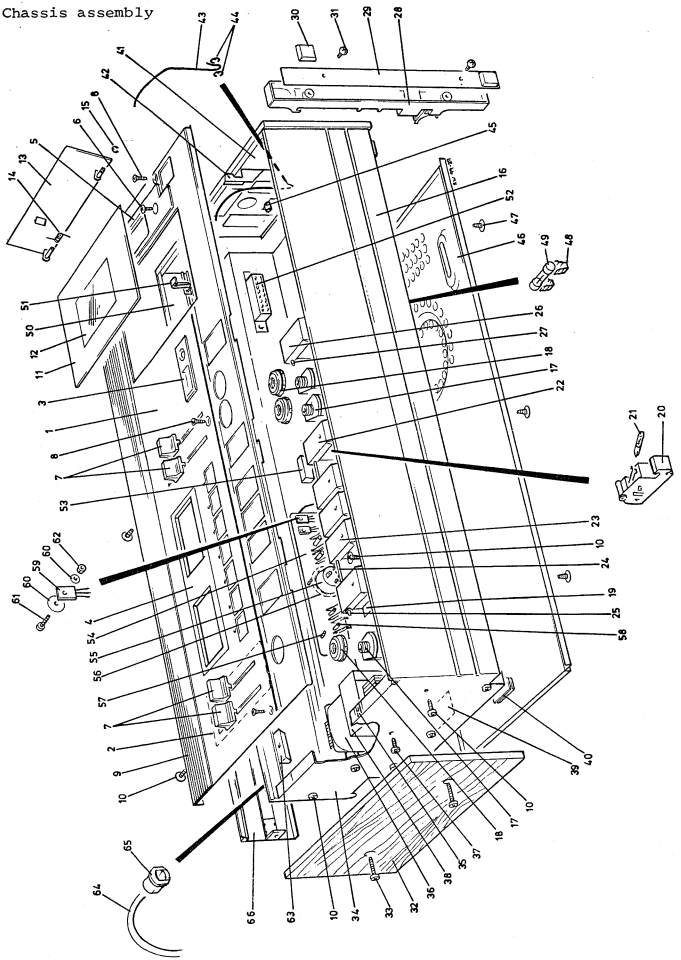
For all enquiries, please state the set's type and serial number.
When ordering, give the part's order number and description.

Address

Contact your nearest Tandberg office or:
Tandberg A/S
Spares Department
P.O. Box 53
N – 2007 KJELLER – Norway

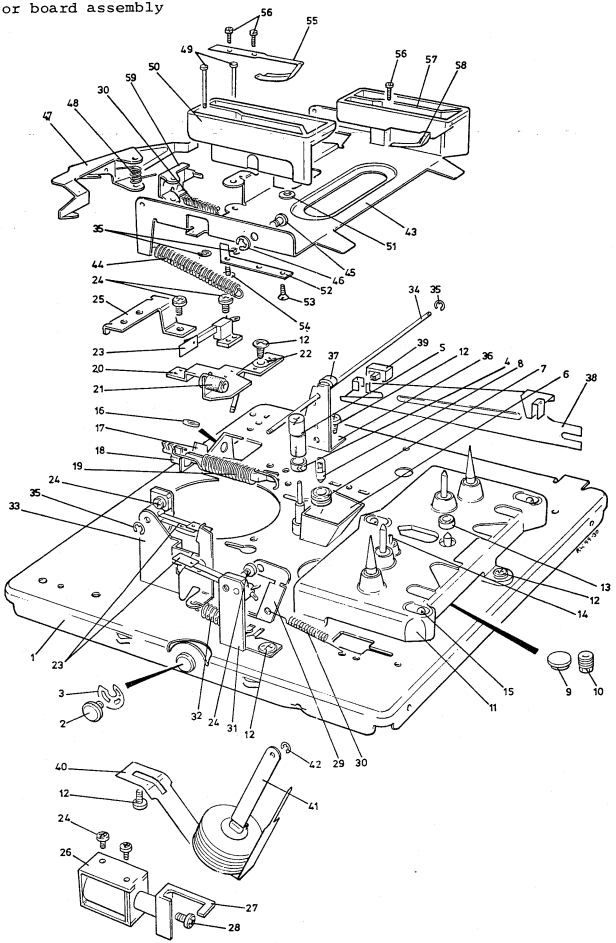
Telephone: (2) 71 68 20
Telex: 18007 kurer n

Chassis assembly



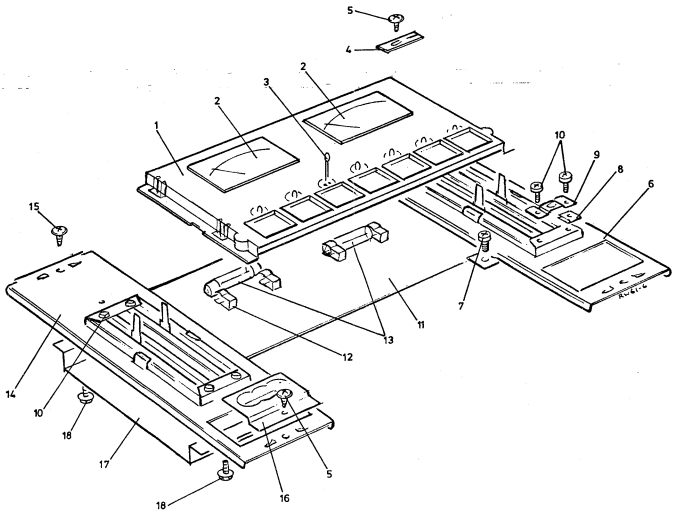
Index	SPECIFY THIS WHEN ORDERING Ordering No.	Beskrivelse (merknader)	Description (notes)	Reference
	*	SJASSIS-ENHET	CHASSIS ASSEMBLY	
1	995118	PLATE (LEV. M/INDEX 2-6)	PLATE, TOP (SUPPLIED WITH INDEX 2-6)	
2	292581	PLATE	MASK, FELT	
3	313191	VINDU	WINDOW, COUNTER, PLASTIC	
4	374935	RAMME	SURROUND, METER, PLASTIC	
5	346250	RAMME	SURROUND, PLASTIC	
6	346840	SKRUE	SCREW, PLATE, 1/4" NO. 4 FLANGE HD, BLACK	
7	994119	KNAPP	KNOB, BLACK, PLASTIC, WITH SPRING	INPUT LEVEL,OUTPUT LEVEL
8	294556	SKRUE	SCREW, PLATE, 3/8" NO. 4 CSK HD	
9	347163	SKINNE	PLATE, TOP	
10	309060	SKRUE	SCREW, PLATE, 1/4" NO. 6 PAN HD	
11	344750	DEKSEL	COVER	
12	367321	VINDU	WINDOW, PLASTIC	
13	346028	LOKK	COVER, WITH SPINDLE	
14	345862	FJÆR	SPRING	
15	230542	SKIVE	RING, CIRCLIP, 2,3 MM	
16	316086	SKINNE	PLATE, FRONT	
17	294420	JACK	SOCKET, JACK, 3 POLE 1/4 IN.	HEADPHONE, MIC L,MIC R
18	317372	MUTTER	NUT	
19	319096	BØYLE	BRACKET, PUSH SWITCH	
20	318723	HUS	SWITCH	PLAY, REWIND, STOP, WIND, RECORD, EJECT
21	286532	LAMPE	BULB, 12 V 40 MA	PLAY, REWIND, STOP, WIND, RECORD
22	347586	DEKSEL	BUTTON, TOUCH, PLASTIC	RECORD
23	348563	DEKSEL	BUTTON, TOUCH, PLASTIC	PLAY, REWIND, STOP, WIND
24	316474	AKSEL	SPINDLE	
25	237970	SKIVE	RING, CIRCLIP, 1,5 MM	
26	335604	DEKSEL	BUTTON, TOUCH, BLACK, PLASTIC	EJECT
27	318155	AKSEL	SPINDLE	
28	994152	FOT (LEV. M/INDEX 29-31)	FOOT, PAIR (SUPPLIED WITH INDEX 29-31)	
29	*	PLATE	PLATE	
30	324297	FOT	FOOT, RUBBER	
31	309693	SKRUE	SCREW, PLATE, 1/4" NO. 4 FLANGE HD	
32	334878A	KASSETT	PANEL, ROSEWOOD	} SUPPLIED IN
	371229	KASSETT	PANEL, BLACK	} MATCHED PAIRS
33	262984	SKRUE	SCREW, PLATE, 5/8" NO. 6 PAN HD, BLACK	
34	309599C	PLATE	PLATE, SIDE WALL, LEFT	
35	272739	MUTTER	NUT, PLATE	
36	372155	TRANSFORMATOR	TRANSFORMER	
37	346854	SKRUE	SCREW, 3,5 X 6,3 MM HEX HD, WITH COLLAR	
38	373577B	PLATE	COVER, ISOLATION	
39	290213	PLATE	PLATE, ISOLATION	
40	227949	FOT	FOOT, RUBBER	
41	349390	PLATE (LEV. M/INDEX 42-45)	PLATE, SIDE WALL, RIGHT (SUPPLIED WITH INDEX 42-45)	
42	349964	BRAKETT	BRACKET, COVER	
43	347543	FJÆR	SPRING	
44	239651	SKIVE	RING, CIRCLIP, 3,2 MM	
45	351581	STRØMPE	SLEEVE, RUBBER	
46	319448A	PLATE	COVER, BOTTOM	
47	297925	SKRUE	SCREW, PLATE, 5/16" NO. 6 FLANGE HD, BLACK	
48	277509	HOLDER	HOLDER, FUSE	
49	265736	SIKRING	FUSE, 2 A, 5 X 20 MM, SLOW	230 V
	289629	SIKRING	FUSE, 2 A, 1 1/4" X 1/4"	115 V
50	374188	SKINNE	PLATE, REAR WALL	
51	300612A	KLAMMER	GUIDE, PLASTIC	
52	287616	KONTAKT	SOCKET, 15 POLE	REMOTE
53	335095	VENDER	SWITCH, SLIDE	FM-MPX FILTER
54	348413	BRAKETT	BRACKET	
55	242244	KONTAKT	SOCKET, 5 PIN DIN 180 DEGREES	RADIO
56	282645	RING	RING, RUBBER	
57	290842	SKRUE	SCREW, 3 X 6 MM PAN HD	
58	283773	KONTAKT	SOCKET, PHONO	INPUT, OUTPUT
59	*	TRANSISTOR	TRANSISTOR	
60	*	SKIVE (LEV. M/INDEX 59)	WASHER (SUPPLIED WITH INDEX 59)	
61	296417	SKRUE	SCREW, 2,6 X 8 MM PAN HD	
62	271367	MUTTER	NUT, 2,6 MM	
63	319721	BRAKETT	BRACKET, FRAME	
64	357630	LEDNING	CABLE, POWER, WITH EUROPLUG	
	346388	LEDNING	CABLE, POWER	U.S.A. VERSION
65	281454	TUBE	TUBE, CABLE, POWER	
66	347709	DEKSEL	COVER, REAR	

Motor board assembly



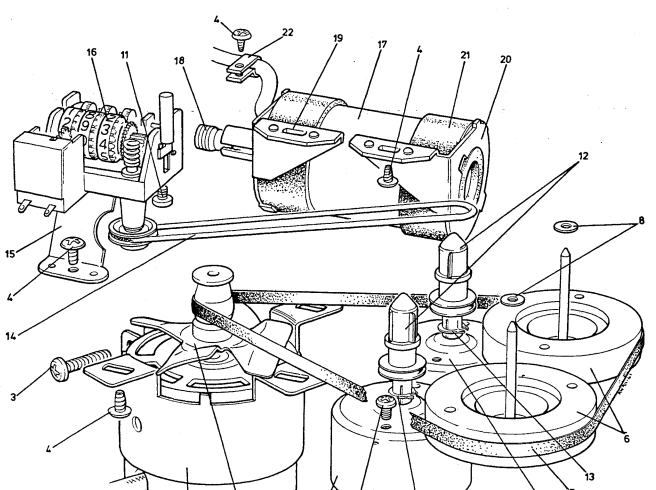
Index	SPECIFY THIS WHEN ORDERING Ordering No.	Beskrivelse (merknader)	Description (notes)	Reference
	*	MOTORPLATE-ENHET	MOTOR BOARD ASSEMBLY	
1	*	PLATE	PLATE, SUPPORT, MOTOR	
2	302020	AKSEL	POST, PIVOT	
3	245649	SKIVE	RING, CIRCLIP, 4 MM	
4	229824	KLIPS	CLIP	
5	301395	HYLSE	CAM, NYLON	
6	301747A	SKJERM	REFLECTOR, ILLUMINATION	
7	285720	TUBE	GROMMET, RUBBER	
8	284471A	LAMPE	BULB, 14 V 80 MA, WITH LEADS	
9	355014	PLATE	DISC, THRUST BEARING	OLD VERSION
10	371351	SKRUE	SCREW, NYLON	NEW VERSION
11	994117	PLATE	PLATE, MOUNTING, FLYWHEEL	
12	346854	SKRUE	SCREW, 3.5 X 6.3 MM HEX HD, WITH COLLAR	
13	207173	LAGER	BEARING, 2.5 MM	
14	304326	PLUGG	GUIDE, CASSETTE	
15	303622	KULE	BALL, BEARING	
16	217152	SKIVE	WASHER, 9 X 4.3 X 0.8 MM	
17	301323	ARM	LEVER, SOLENOID	
18	344132	ARM	ARM	
19	304685	FJÆR	SPRING	
20	994112	BRAKETT	BRACKET, WITH SPINDLE	
21	202303	TUBE	TUBE, RUBBER	
22	223675	LODDEØRE	TAG, SOLDER, 4.2 MM	
23	284119	VENDER	SWITCH, LEAF, N/O	MS1 CASSETTE, MS2 SLIDE MS3 RECORD
24	269255	SKRUE	SCREW, 3 X 4 MM PAN HD	
25	318392	KLAMMER	CLAMP	
26	354001	MAGNET	SOLENOID	EJECT
27	351732	ARM	ARM, SOLENOID, PLASTIC	
28	290842	SKRUE	SCREW, 3 X 6 MM PAN HD	
29	353140A	ARM	LEVER	
30	293824	FJÆR	SPRING	
31	303004	BRAKETT	BRACKET, SUPPORT, LEAF SWITCH	
32	313183	FJÆR	SPRING	
33	346732	BRAKETT	BRACKET, SUPPORT, CASSETTE DRAWER	
34	301668	SPINDEL	SPINDLE	
35	237970	SKIVE	RING, CIRCLIP, 1,5 MM	
36	347357A	BRAKETT	BRACKET, SUPPORT, CASSETTE DRAWER	
37	351581	STRØMPE	SLEEVE, RUBBER	
38	345668	ARM	ARM, SWITCH	
39	348887	VENDER	SWITCH, SLIDE	S9
40	995134	BELG	BELLOWS, WITH FLAT SPRING	
41	360129	ARM	ARM, BELLOWS	
42	234256	SKIVE	RING, CIRCLIP, 1.9 MM	
43	300490A	BRAKETT	BRACKET, CASSETTE DRAWER	
44	289413	FJÆR	SPRING	
45	304678	TAPP	POST, PIVOT	
46	230542	SKIVE	RING, CIRCLIP, 2,3 MM	
47	287380A	ARM	ARM	
48	365130	FJÆR	SPRING	
49	301316	AKSEL	POST, PIVOT	
50	994120	STYRING	GUIDE, CASSETTE, LEFT	
51	215320	SKIVE	WASHER, 7 X 3,2 X 0.5 MM	
52	995135	BRAKETT	BRACKET, BELLOWS	
53	234206	SKRUE	SCREW, PLATE, 3/8" NO. 4 CSK HD, BLACK	
54	292875	SKRUE	SCREW, PLATE, 3/8" NO. 4 FLANGE HD	
55	291791	FJÆR	SPRING, CASSETTE DRAWER, LEFT	
56	299606	SKRUE	SCREW, PLATE, 3/16" NO. 2 PAN HD	
57	994121	STYRING	GUIDE, CASSETTE, RIGHT	
58	290110	FJÆR	SPRING, CASSETTE DRAWER, RIGHT	
59	304103	ARM	ARM	

Meter board assembly



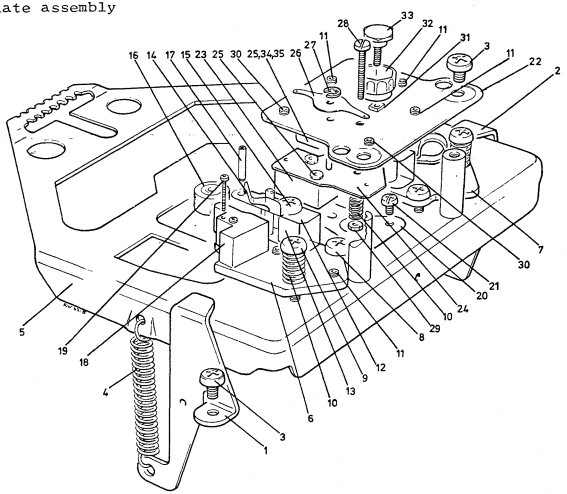
Index	SPECIFY THIS WHEN ORDERING Ordering No.	Beskrivelse (merknader)	Description (notes)	Reference
	*	INSTRUMENTKORT-ENHET	METER BOARD ASSEMBLY	
1	346645	HOLDER	HOLDER, METER	
2	370474	INSTRUMENT	METER	
3	316331	DIODE	DIODE, LIGHT EMITTING	
4	347659	STAG	PLATE	
5	297925	SKRUE	SCREW, PLATE, 5/16" NO. 6 FLANGE HD, BLACK	
6	315734A	RAMME	FRAME, POTENTIOMETER	
7	329598	SKRUE	SCREW, 3/16" NO. 4 PAN HD	
8	272739	MUTTER	NUT, PLATE	
9	317063	BRAKETT	BRACKET	
10	269255	SKRUE	SCREW, 3 X 4 MM PAN HD	
11	995124	KORT	BOARD, METER	A9
12	330195	HOLDER	HOLDER	
13	333909	LAMPE	BULB, 10 V 50 MA	
14	317415A	RAMME	FRAME, POTENTIOMETER	
15	309060	SKRUE	SCREW, PLATE, 1/4" NO. 6 PAN HD	
16	315382	BRAKETT	BRACKET	
17	995125	SKJERM (LEV. M/INDEX 18)	SCREEN, WITH INSULATION (SUPPLIED WITH INDEX 18)	
18	346854	SKRUE	SCREW, 3.5 X 6.3 MM HEX HD, WITH COLLAR	

Drive assembly



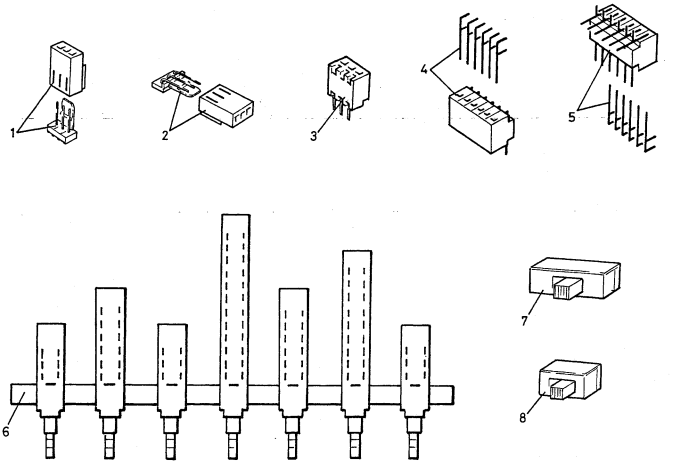
Index	SPECIFY THIS WHEN ORDERING Ordering No.	Beskrivelse (merknader)	Description (notes)	Reference
	*	FREMDRIFTS-ENHET	DRIVE ASSEMBLY	
1	280405	MOTOR	MOTOR	CAPSTAN
2	302645	KLAMMER	BRACKET, SUPPORT, MOTOR	
3	262984	SKRUE	SCREW, PLATE, 5/8" NO. 6 PAN HD, BLACK	
4	346854	SKRUE	SCREW, 3,5 x 6,3 MM HEX HD, WITH COLLAR	
5	994158	DRIVHJUL	PULLEY, DRIVE, 50 HZ	
	994159	DRIVHJUL	PULLEY, DRIVE, 60 HZ	
6	994111	SVINGHJUL	FLYWHEEL	
		(PARVIS TILPASSET, OG MED INDEX 7)	(SUPPLIED AS A MATCHED PAIR, AND WITH INDEX 7)	
7	994183	RING	BELT, DRIVE, RUBBER	
8	371422	SKIVE	WASHER, 5.3 x 2.4 x 0.2 MM	
9	375086	MOTOR	MOTOR	REWIND, NEW TYPE
	284823	MOTOR	MOTOR	REWIND
10	286823	MOTOR	MOTOR	WIND
11	269255	SKRUE	SCREW, 3 X 4 MM PAN HD	
12	994113	AKSEL	SPINDLE, TAPE REEL	
		(LEV. M/INDEX 13)	(SUPPLIED WITH INDEX 13)	
13	213826	RING	RING, RETAINING, EXTERNAL, 6 MM	
14	309600	RING	BELT, DRIVE, RUBBER	
15	315030B	BRAKETT	BRACKET, SUPPORT, COUNTER	
16	319139	TELLER	COUNTER	
17	995121	TREKKMAGNET	SOLENOID	PINCH ROLLER
18	264212A	SKRUE	SCREW, NYLON	
19	302623	KLAMMER	BRACKET	
20	302300	KLAMMER	BRACKET	
21	300942A	HYLSE	HOUSING, RUBBER	
22	202684	KLAMMER	CLAMP, CABLE, NYLON, 5 MM	

Head plate assembly



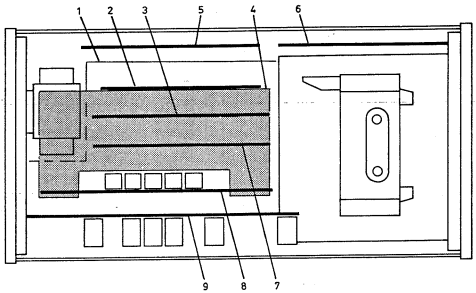
Index	SPECIFY THIS WHEN ORDERING Ordering No.	Beskrivelse (merknader)	Description (notes)	Reference
	*	HODEBRO-ENHET	HEAD PLATE ASSEMBLY	
1	304333A	ARM	BRACKET, GUIDE, HEAD PLATE, LEFT	
2	345676	ARM	BRACKET, GUIDE, HEAD PLATE, RIGHT	
3	269255	SKRUE	SCREW, 3 X 4 MM PAN HD	
4	287732	FJÆR	SPRING	
5	*	PLATE	PLATE, MOUNTING, HEAD	
6	348061	PLATE	PLATE, PRESSURE, LEFT	
7	346380	PLATE	PLATE, PRESSURE, RIGHT	
8	292523	SKRUE	SCREW, 3 X 8 MM PAN HD	
9	293852	SKRUE	SCREW, 3 X 15 MM PAN HD	
10	240406A	FJÆR	SPRING	
11	890002	SKRUE	SCREW, SET, 3 X 7 MM	
12	342307	BØYLE	BRACKET, U-SHAPED, PRESSURE ROLLER	
13	337479A	HYLSE	SPACER	
14	346997	FJÆR	SPRING	
15	292171	SKRUE	SCREW, 3 X 12 MM PAN HD	
16	333126	VALSE	ROLLER, PRESSURE, RUBBER	
17	341553	AKSEL	SPINDLE	
18	716476	HODE	HEAD, ERASE	
19	340281	SKRUE	SCREW, 1.7 X 12 MM PAN HD	
20	285699A	FJÆR	SPRING, FLAT	
21	294520	SKRUE	SCREW, 2.3 X 3 MM PAN HD	
22	352608	PLATE (LEV. M/INDEX 31)	PLATE, MOUNTING, HEAD, WITH NUT (SUPPLIED WITH INDEX 31)	
23	715546	HODE (LEV. M/INDEX 24,25)	HEAD, RECORD, WITH PLATE (SUPPLIED WITH INDEX 24 AND 25)	
24	349742	PLATE	PLATE, MOUNTING, HEAD	
25	336517	MUTTER	NUT	
26	339433	FJÆR	SPRING	
27	234256	SKIVE	RING, CIRCLIP, 1.9 MM	
28	326660	SKRUE	SCREW, 2 X 15 MM PAN HD	
29	335755A	MUTTER	NUT, 2 MM	
30	890001	SKRUE	SCREW, SET, 3 X 6 MM	
31	341395	HYLSE	NUT, PLASTIC	
32	347458	HYLSE	KNOB, BLACK, PLASTIC	
33	347385	SKRUE	SCREW	
34	715547	HODE (LEV. M/INDEX 25,35)	HEAD, PLAYBACK, WITH PLATE (SUPPLIED WITH INDEX 25 AND 35)	
35	337400	PLATE	PLATE, MOUNTING, HEAD	

Connectors and switches



Index	Ordering No.	Description (notes)	Beskrivelse (merknader)	Reference
	SPECIFY THIS WHEN ORDERING			
	*	CONNECTORS	KONTAKTER	
1	995818	Connector, 2 pole, small	Kontakt	
	995819	Connector, 3 pole, small	Kontakt	
	995820	Connector, 4 pole, small	Kontakt	
	995821	Connector, 5 pole, small	Kontakt	
2	996301	Connector, 3 pole, horizontal, small	Kontakt	
3	318320	Connector, fixed, 3 pole	Kontakt	
4	996302	Connector, 3 pole, black	Kontakt	
	996303	Connector, 6 pole, black	Kontakt	
5	996304	Connector, 3 pole, black	Kontakt	
	996305	Connector, 6 pole, black	Kontakt	
	*	SWITCHES	VENDERE	
6	339498	Switch, push	Vender	POWER, DOLBY N.R., TAPE, MEMORY, MONITOR, REC.PRESET
7	348887	Switch, slide	Vender	S9
8	335095	Switch, slide	Vender	S8, FM-MPX FILTER

Printed circuit boards



Index	SPECIFY THIS WHEN ORDERING Ordering No.	Beskrivelse (merknader)	Description (notes)	Reference
	*	TK PLATER	PRINTED CIRCUIT BOARDS	
1	995132	KORT	BOARD, MOTHER	A1
	995133	KORT	BOARD, MOTHER	A1 / U.S.A. VERSION
2	994170	KORT	BOARD, PLAYBACK AMPLIFIER	A6
3	994169	KORT	BOARD, DOLBY ENCODER	A5 / U.S.A. VERSION
	994174	KORT	BOARD, DOLBY ENCODER	A5
4	995124	KORT	BOARD, METER	A9
5	994171	KORT	BOARD, DOLBY DECODER	A7
6	995119	KORT	BOARD, OSCILLATOR	A8
7	995120	KORT	BOARD, RECORD AMPLIFIER	A4
8	995128	KORT	BOARD, SWITCH	A3
9	995130	KORT	BOARD, LOGIC	A2

TANDBERG – Eine Chronik des Erfolges

1933 gründete der Ingenieur Vebjørn Tandberg die damalige 'Tandberg's Radiofabrikk A/S'.

Seitdem konnte die innovative Firma immer wieder Meilensteine in der Geschichte der Elektronik setzen.

1933
Die Produkte der ersten Stunde waren zwei Rundfunkempfänger, ein batteriebetriebenes Gerät 'Tommeliten' sowie ein netzbetriebener Empfänger 'Corona'.

1934
Ein neuartiges Rundfunkgerät 'Huldra 1' mit Lang- und Mittelwelle wird vorgestellt.

1950
Erste Export-Aktivitäten.

1952
Tandberg's erstes Tonbandgerät wird produziert. Es ist das weltweit erste Gerät mit entzerrter Spitzenwertanzeige. Damals noch mit dem 'Magischen Auge'.

1956
Das Bandgerät 'Model 5' wird vorgestellt. Weltweit das erste 1/4 Spur-Stereo Gerät.

1961
Die Auslieferung der ersten Sprach-Labore beginnt.

1964
Der weltweit erste 'Dual-Gap' Löschkopf wird bei Tandberg produziert.

1966
Das Bandgerät 'TB 64X' mit Crossfield-Vormagnetisierung wird vorgestellt. Weltweit erstes Bandgerät mit einem Frequenzgang bis 15 kHz bei einer Bandgeschwindigkeit von nur 9,5 cm/sec.

1968
Tandberg's tragbarer Empfänger 'TP 41' wurde von führenden Magazinen in den USA der Titel 'Best In The World' verliehen.

1971
Tandberg's erste digitale Laufwerksteuerung für Tonbandgeräte wird vorgestellt.

1972
Tandberg übernimmt die norwegische Firma 'Radionette'. Im gleichen Jahr beginnt die Produktion des Cassetten-Deck's 'TCD 300'. Weltweit erster Recorder mit 3 Motoren, Dual-Capstan, Closed-Loop, elektronisch gesteuertem Laufwerk und servo-geregeltem Vor/Rücklauf.

1975
Der Cassetten-Recorder 'TCD 330' wird produziert. Weltweit erstes Gerät mit 3 Tonköpfen und digitaler Logiksteuerung.

1978
Das Spulen-Bandgerät 'TD 20A' wird vorgestellt. Einzigartig ist das Aufnahmesystem 'Actilinear'. Gleichzeitig beginnt die Produktion des Recorders 'TCD 340 AM' mit Aufnahme- und Wiedergabemöglichkeit von 'Metal-Tapes'.

1979
Der 'TCD 440A' war der erste Recorder mit Tandberg's Revolutionärem dynamisch entzerrten Aufnahmesystem 'Dyneq'.

1980
Tandberg's Serie 3000 kommt auf den Markt. Eine neue Serie von Einzel-komponenten von denen der Tuner 'TPT 3001' als weltweit erstes Gerät mit einem Fremdspannungsabstand von mehr als 90 dB in Stereo aufwarten konnte. Der Recorder 'TCD 3004' genügte auch professionellen Ansprüchen.

1982
Die Bandmaschine 'TD 20' wird um das Modell 'TD 20A SE' erweitert. Eine Spezialversion, die weltweit erstmalig einen Fremdspannungsabstand von 80 dB auf 1/4 Zoll-Band ohne Rauschunterdrückungssysteme erreicht. Zu diesem Zeitpunkt wird auch der Vollverstärker 'TIA 3012' als neues Modell in der zweiten Generation der Serie 3000 vorgestellt.

1984
Tandberg produziert mit der 'TCD 900-Serie' Cassetten-Maschinen für professionelle Anforderungen. Diese Serie Kombinierte hervorragende Klangeigenschaften mit soliden mechanischen und elektronischen Konstruktionen sowie einem höchstmaß an Bedienungskomfort und repräsentiert somit die Erfahrungen von über 50 Jahren in der Entwicklung und Herstellung von Bandgeräten.

1986
Das Konzept von völlig gegenkopplungslosen Verstärkerstufen wird in den High End-Verstärkern '3016' und '3018' verwirklicht. Die gleichen Konstruktionsmerkmale liegen dem CD-Spieler '3015' zugrunde. Weltweit erste Serie von Komponenten, die eine völlig gegenkopplungslose Verstärkung von den Eingangsbuchsen bis zu den Lautsprecherklemmen ermöglichen.

1987
Vorgestellt wird der High End-Receiver '3080A'. Fernbedienbar in allen Funktionen und aufgebaut mit gegenkopplungsfreien Verstärkern, repräsentiert dieser Receiver Tandberg's Erfahrungen aus fünf Jahrzehnten in der Entwicklung und Herstellung von hochwertigen Empfängern.

Als Vertragshändler der führenden HI-FI-Marken haben wir seit Jahren auch im Zubehörbereich nur erste Qualitäten: Oelbach-Kabel, WBT-Steckverbindungen etc. Mit eigener Reparaturwerkstatt helfen wir Ihnen zuverlässig und schnell bei Reparaturen und Anlagen-Umrüstungen.

Vom Verstärker bis zum Kopfhörer führen wir ausschließlich Geräte namhafter HI-FI-Hersteller.

Besuchen Sie unser HI-FI-Studio - wir sind ganz in Ihrer Nähe!

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Fax (02 11) 20 29 54
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